BROOKHAVEN NATIONAL LABORATORY

ENVIRONMENTAL PROGRAMS

EDD Verify User's Guide

User's Guide

BROOKHAVEN
NATIONAL LABORATORY

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Table of Contents

CHAPTER 1

Introduction 1
What is EDD Verify 1
How does it Work 2
How does it effect your work 2
Getting Started 4
Installing the Software 5
Changing Default File Locations 5

CHAPTER 2

Importing SDGs 6
Working with the Sample Grid 7
Working with the Analysis Grid 8
Single Analysis Record Edit 9
CAS Table Lookup 10
Other Reference Tables 12
Reference Table Import 12
Saving SDGs 13

APPENDIX

A – Verification Rules 14
A1 – Sample Verification Rules 14
A2 – Analysis Verification Rules 15
B – CAS Table 15
C – EDD File Format 16

Chapter

1

Introduction

The purpose of this manual is to assist the EDD (Electronic Data Delivery) Verify user during his or her initial exposure to the system. It provides step by step description of system functionality and operations so that you do not need to be a computer expert to competently use all the facilities that the system offers. Once you are familiar with system operation and functionality, the manual may be used as a casual reference to facilitate the use of operational procedures not used frequently.

What is EDD Verify

The EDD Verify software provides the tools needed to ensure quality and accuracy of data packages before sending EDDs to the Brookhaven National Laboratory (BNL) Environmental Information Management System (EIMS). EDD Verify confirms that the format of the EDD is valid and the data contained within it adheres to BNL guidelines.

How does it work

The EDD Verify software runs on Microsoft Windows-based workstations. You install the program using a simple setup program. Once installed, you use the File Open feature to import an existing Sample Delivery Group (SDG). The term SDG is used to represent a group of EDDs. EDDs contain one Sample Record followed by multiple analysis records. The format of a valid EDD is shown in Appendix A.

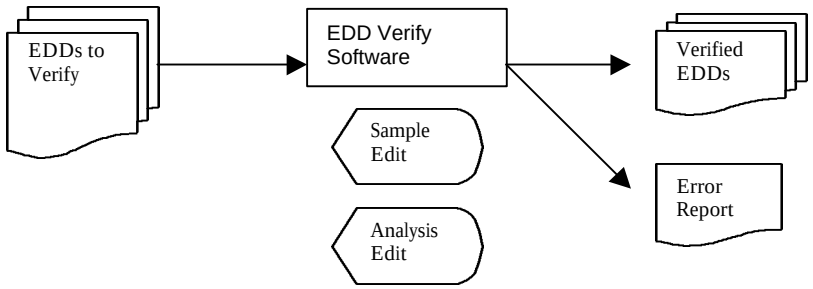
The complete specifications for the BNL EIMS analytical data EDD format is available at http://www.bnl.gov/erd/erd/tech.html or by contacting the EIMS Coordinator <daum@bnl.gov>

While importing an SDG, the program checks each EDD for errors, records them, and displays them when completed. A report can be printed showing all errors. If any errors are found, you must then edit individual sample or analysis records to correct

the error. Fields containing invalid information will be highlighted with a red background. All imported data are saved to your local hard drive. You can exit the program and re-enter at any point in time, your edited records will be saved.

When all errors have been corrected use the File Save feature to output the verified SDG to a new folder. The EDD file names in the output folder are the same as they were when imported. The corrected and verified SDG can then be sent to BNL via e-mail or, if necessary, by regular mail on diskette.

The flow of EDDs into and out of the system in shown in the following diagram:



How does it effect your work

The EDD Verify software makes the task of auditing EDD data much simpler. It notifies you of any problems before data are sent to BNL.

Use of this program will identify and tag any errors not consistent with BNL's required format, or inconsistencies with the EIMS database. On-the-fly corrections can be made within each EDD, therefore submittals of erroneous SDGs and subsequently resubmitting returned SDGs will be eliminated. Also, allowing the computer to check through all the files will save time and increase accuracy during the initial review of the EDDs.

Getting Started

This section presents an introduction on the use of the EDD Verify software and describes the different steps you need to get started using the system.

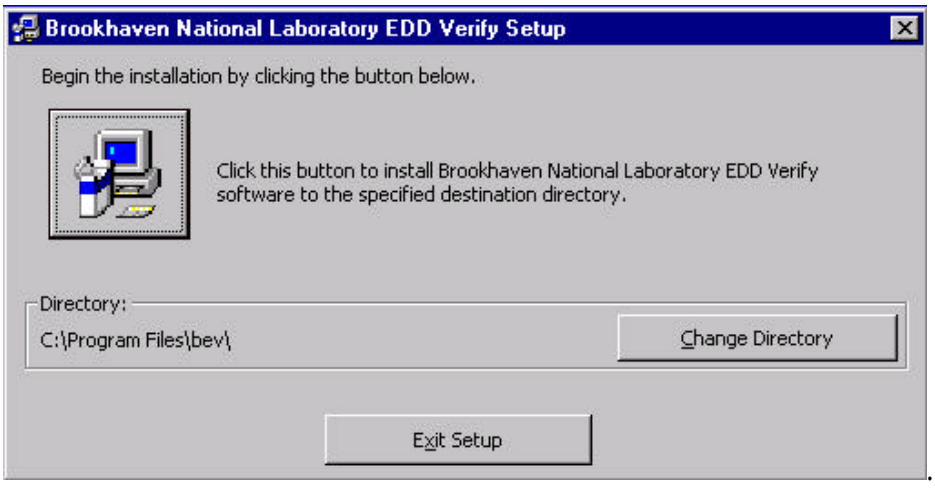
Installing the software

The EDD Verify software must be installed from the supplied CD-ROM.

- **To Install EDD Verify**

1. Insert the EDD Verify Disk into the CD-ROM drive.
2. Double-click **Setup.exe**
3. Click the Install Now button.
4. Follow the instructions on your screen

A sample EDD Verify Setup screen is show below:



The default location for software installation is C:\Program Files\Bev. You can, however, change the default location to any directory you wish.

An icon called “BNL EDD Verify” will be created in a new group called “Brookhaven National Laboratory EDD Verify”.

Select BNL EDD Verify to start the software.

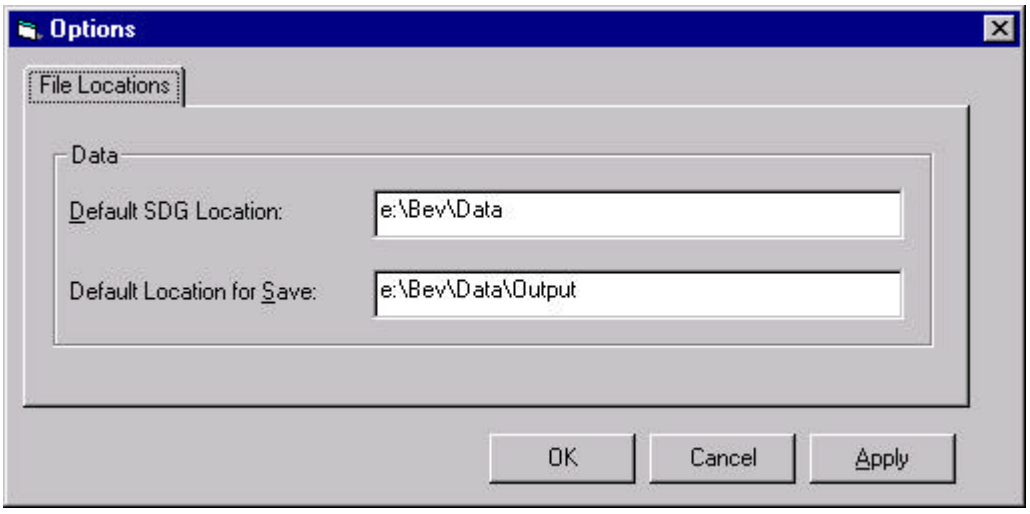
Changing Default File Locations

After installation you can change the default file folders for importing and saving EDDs. The software uses these default file locations when looking for EDDs to Open and Save. The default location for opening unverified EDDs is C:\Program Files\Bev. The default location for saving verified data is C:\Program Files\Bev\Output.

To Customize Default File Locations

1. Select View, Options from the Main Menu.
2. Type in the new location for Default SDG Location.
3. Type in the new location for Default Location for Save.
4. Select Apply to save changes, OK to exit and save changes.

A sample Options screen is show below:



Chapter

2

Verifying SDGs

Main Menu

When you start EDD Verify, the main desktop screen is displayed. It includes:

- The main menu bar
- The toolbar, with icons for frequently used functions.
- The Sample Grid Control where your work will be performed.
- The Status Bar.

The main menu bar contains drop-down menus that will be discussed in details in the next sections.

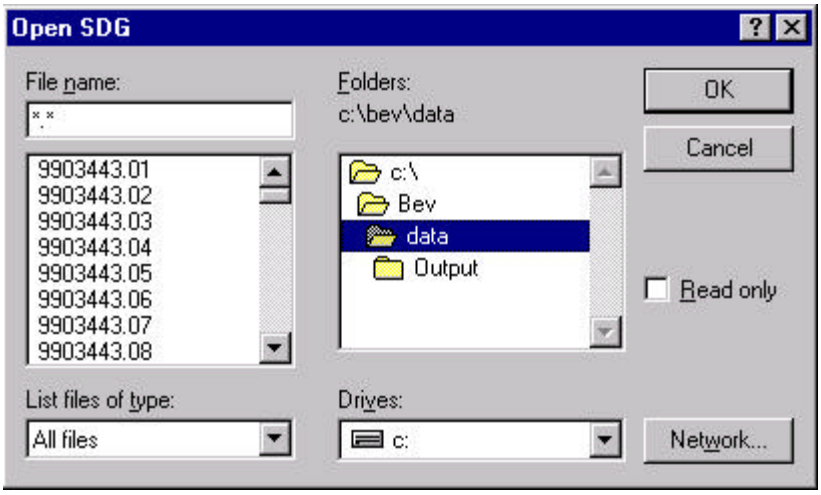
Importing SGDs

The first step after starting the software is to open a Sample Delivery Group (SDG) for verification. The system allows you to select multiple files for verification.

To Open an SDG for Verification

1. Select File, Open from the Main Menu.
2. The Open SDG Dialog Box is presented.
3. Click on the first EDD then hold down the Shift Key for selecting a range of File Names.
4. Press OK to begin import and initial verification.

A sample Open SDG Dialog box is show below:



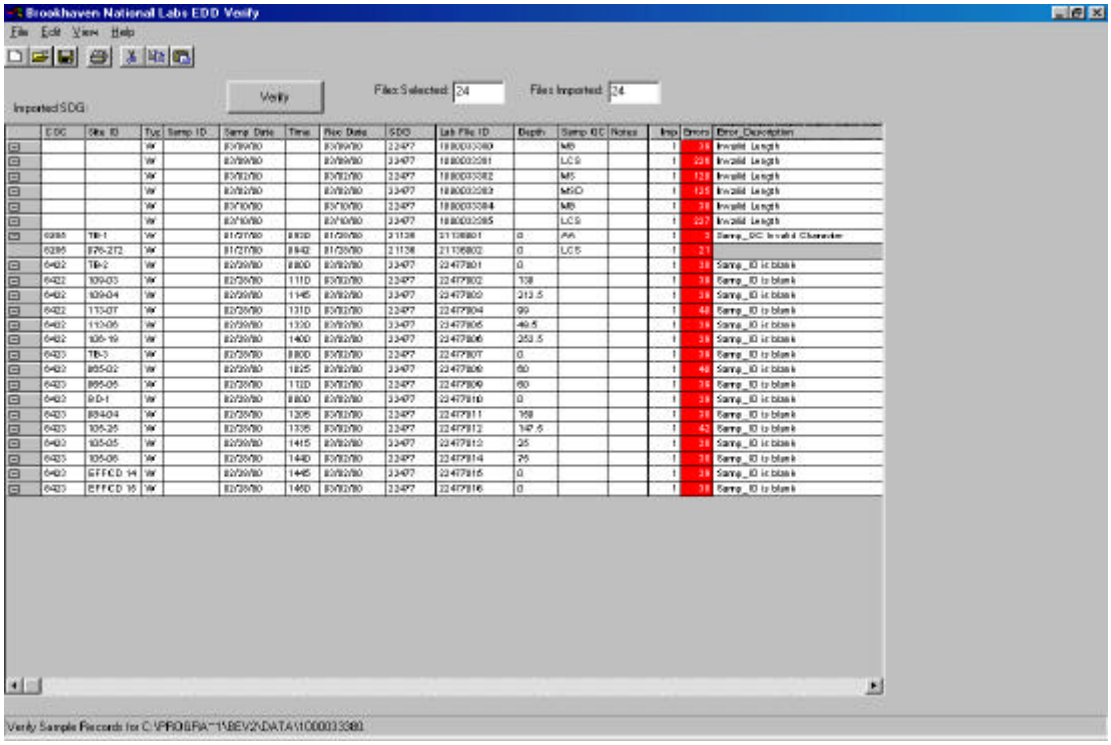
Each file in the SDG will contain data in the format shown in Appendix A.

The system will verify that the first record (sample header) contains all field names for the sample record and the third record (analysis header) contains all field names for the following analysis records. The number of fields in the detail records must match the number of fields in the header records. Any file that does not contain a sample header record is rejected.

As the system reads each EDD, every field is checked for valid data. Appendix A lists the validation rules. A progress bar is displayed as the initial validation routine runs. When completed, the top right portion of the Sample Grid screen shows how many files were imported for the SDG and how many files were selected. If these two counts do not match, it indicates one or more of the EDDs selected for import were not recognizable as an EDD type file. You can look up the names of rejected files using the View, Rejected Files menu option.

Working with the Sample Grid

The sample screen on the following page shows the state of the system after importing EDDS. As you work to clear errors, all data are saved to disk. This feature allows you to save your work and exit the application without having to re-import EDDs. The next time you start the application it will contain all data and corrections entered from previous sessions. The SDG being worked on is not cleared until the next import is run. You should not run the File, Save feature until all errors are cleared.



Each row in the imported SDG grid represents a single EDD file. The status bar (at the bottom of the screen) shows the file name of the EDD being pointed to. The errors column shows how many errors have been found in the EDD, including Analysis record errors. If any errors exist for an EDD, the Error count cell is highlighted with a red background.

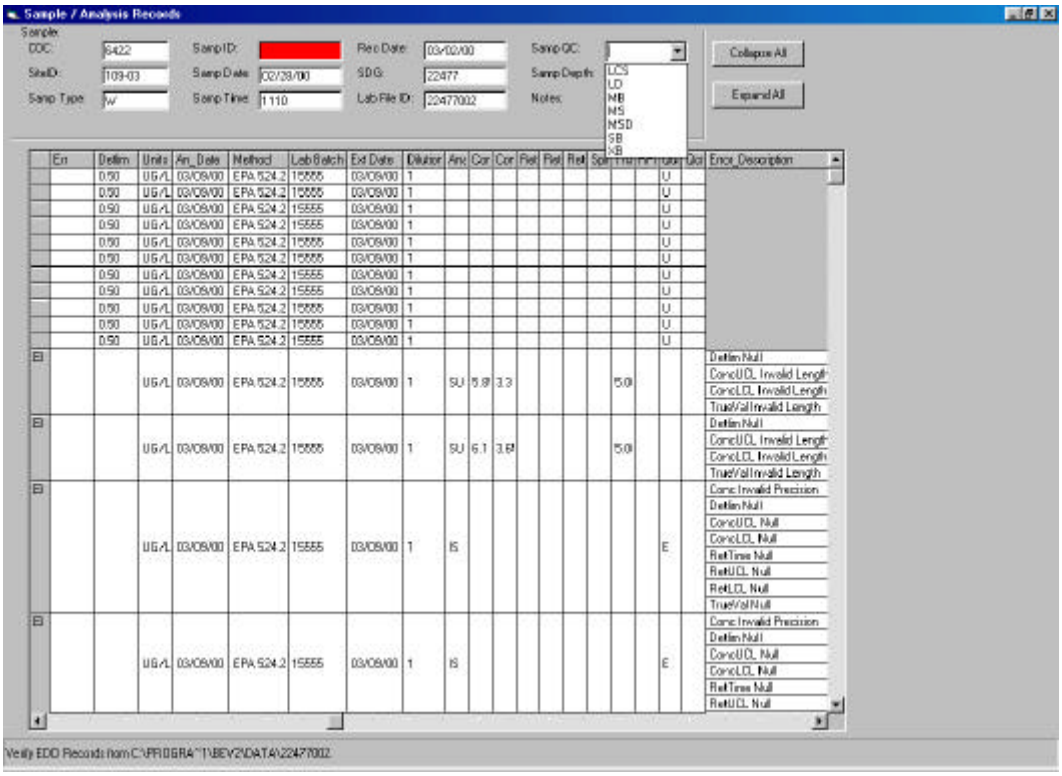
Errors related to the sample record are shown in the Error Description column. There can be multiple errors for each sample. When there are multiple errors the row height will expand automatically to show each error. For example, in the Sample Grid above, COC 1346 (middle of grid) contains many errors.

To edit a specific sample record within the Sample Grid, position to the row using your mouse and double-click on that row. This will bring up the Analysis Grid.

Working with the Analysis Grid

The Analysis Grid screen is used to edit a specific sample record and related analysis records within that sample. The sample fields are shown on the top of the screen. All analysis records in that sample are show in the Analysis Grid. Fields in the Sample record that failed validation are highlighted with a red background. Any errors in the Analysis records are shown in the error description column.

The description of the Sample field errors is shown in the column on the right side of the screen. A sample Analysis Grid screen is shown below:



The name of the source file being edited is shown in the status bar at the bottom of the screen.

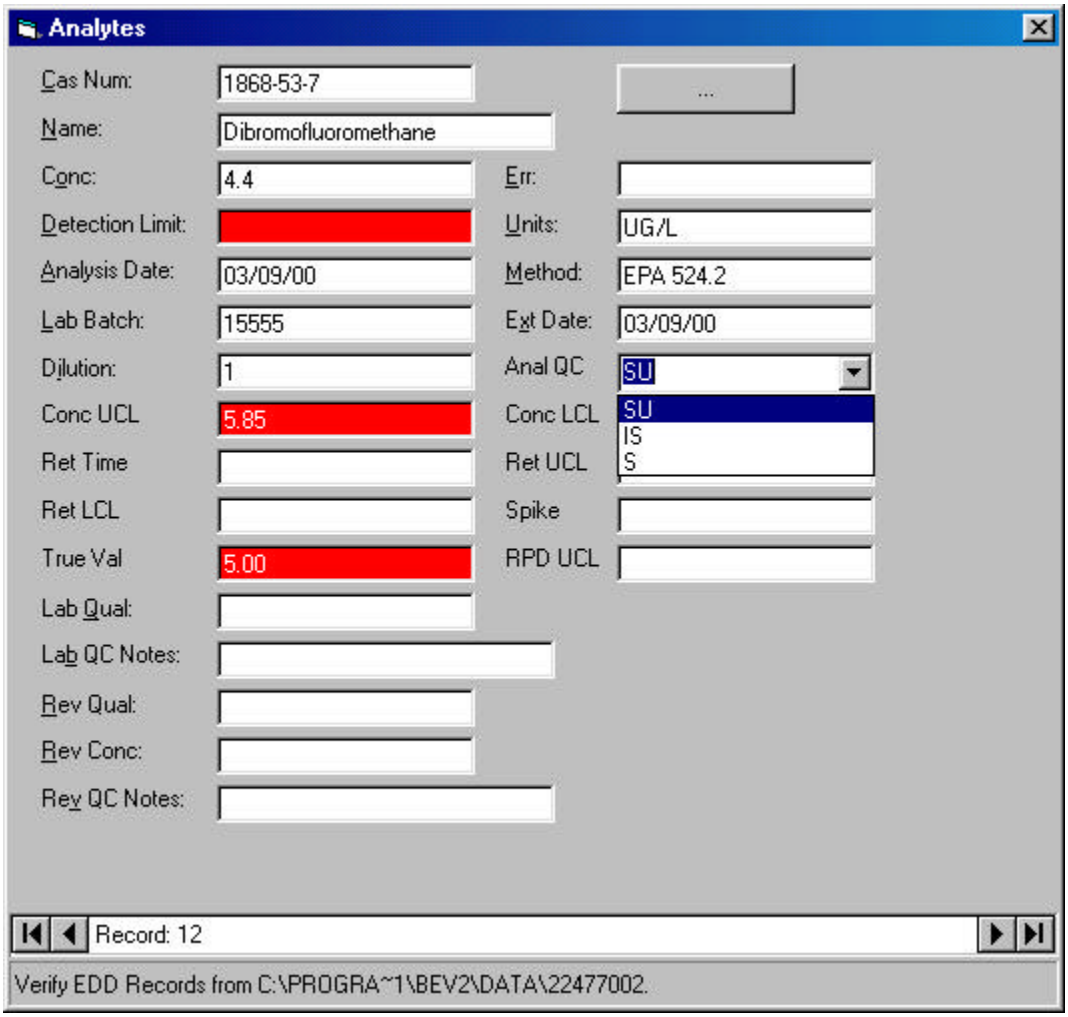
Like the Sample Grid screen, multiple errors can exist for each Analysis record. When there is more than one error for an analysis record, the row will automatically expand to show each error.

To edit a specific analysis record, position to the row with your mouse and double-click. This will bring up the Single Analysis Record Edit screen. To close the Analysis Grid screen, save any changes and return to the Sample Grid screen, click on the Close box in the top right corner of the screen.

Single Analysis Record Edit

The Single Analysis Record Edit screen is used to correct errors in analysis records. To move between fields press the tab key. Any fields that failed verification are highlighted with a red background. A description of the specific error is shown in the status bar as you move between fields.

You can use the VCR –like control at the bottom of the screen to move between records. Press close to return to the Analysis Grid screen.



You can quickly move between fields by using short cut keys. The underlined character in the field name determines which keyboard character is the short cut key. Press the ALT key plus the underlined character to move the focus to that field. For example, pressing ALT + "N" will move the cursor to the Name field.

CAS Table Lookup

EDD Verify uses a chemical number and name table to verify CAS numbers and names. This CAS table contains multiple cas names for a single CAS number.

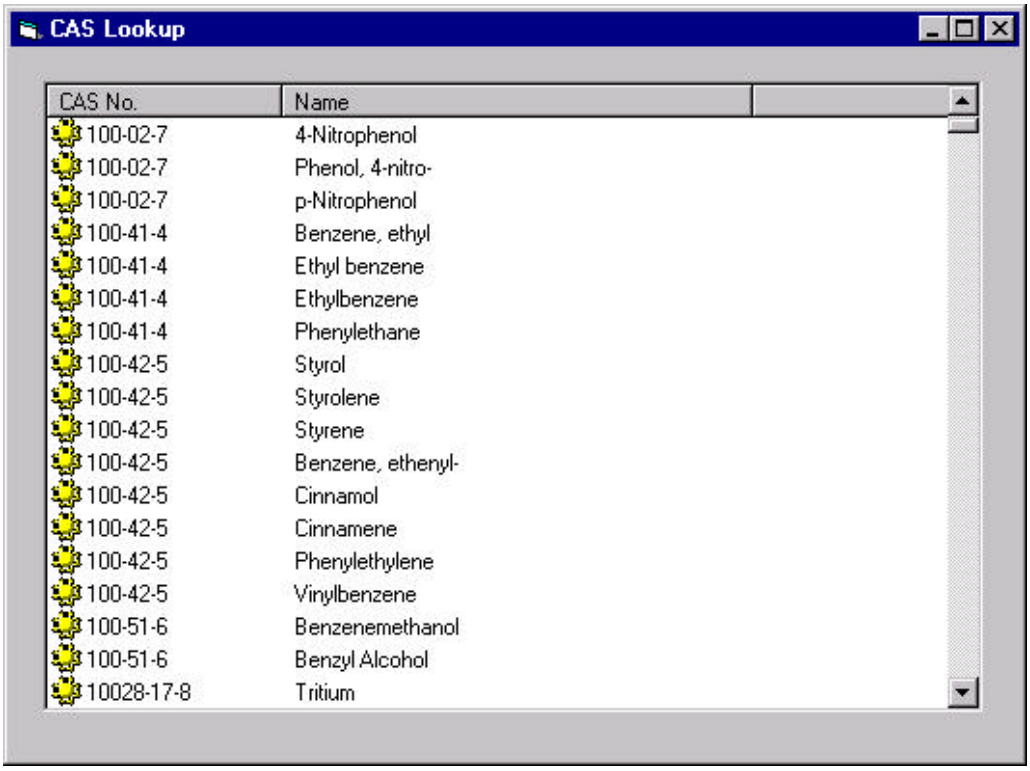
If you have errors in either one of these fields, you can use the CAS Table lookup feature to correct them. To activate the CAS Lookup Dialog Box press the command button with three dots in it next to the CAS Num field.

The CAS Lookup Dialog Box will initially position itself to a specific row depending on the type of error. If the chemical name is in error, the CAS Lookup Dialog box will start at the CAS number that is not in error. This makes it easy to select the correct chemical name for the analysis record being edited. If the CAS number is in error, then the CAS Lookup Dialog box will initially position itself to the correct Chemical Name.

If both fields are in error, CAS Num and Chemical Name, the CAS Lookup Diaglog box will initially start at the first CAS Num on file.

To correct a CAS Num or Name, double-click on the row.

A sample CAS Lookup Dialog Box is show below:



Other Reference Tables

Some fields accept only specified Legal Values. If you have any other value in the field, you will get an error. For the fields Samp_QC, Anal_QC, and Units, you can select the desired Legal Value by clicking on the field to get a drop-down list. To correct the field, click on the value that you want.

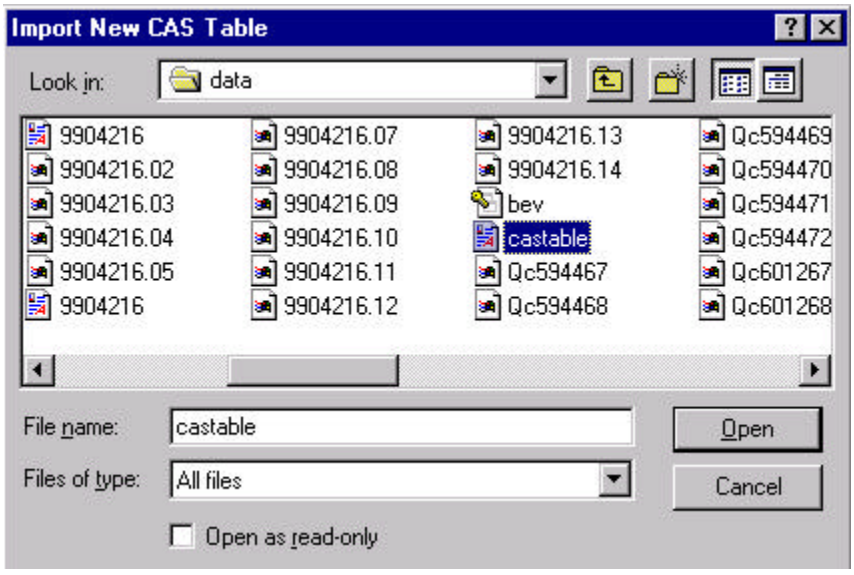
CAS Table Import

The Brookhaven National Laboratory will send updates to the CAS table when necessary. To activate the new table, you must use the EDD Verify Import feature. The example below shows how to import a new CAS table.

To Import a new CAS Table

1. Select File, Import from the Main Menu.
2. The Import New CAS Table dialog box will appear
3. Select the castable.lst file location
4. Press Open to begin the import process
5. A progress bar will indicate that the new cas table is being imported.

A sample CAS Table Import dialog box is shown below:



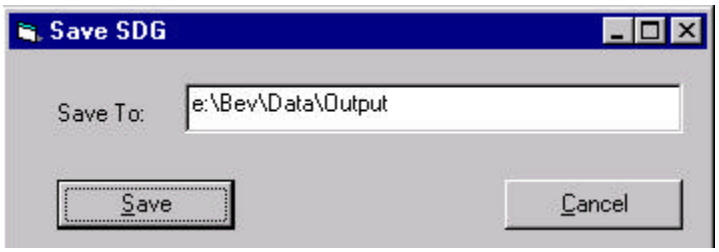
Saving the Verified SDG

When all corrections have been made, you must save the verified SDG to a new output directory before sending the files to BNL.

To Save a verified SDG

1. Select File, Save from the Main Menu.
2. The Save SDG Dialog Box is presented.
3. Change the name of the output folder if desired.
4. Press Save to complete the export process.

A sample Save SDG Dialog box is show below:



Appendix

A. Verification Rules

The following tables describe each verification rule implemented in EDD Verify. These tables can be referred to when an error has occurred and you cannot figure out how to correct it. For complete details refer to the Specifications for EIMS Analytical Data Format.

A1. Sample Verification Rules
1. # of sample fields matches sample line mask
2. The COC number must be less than eight characters
3. The COC must not be null for field samples
4. The Site ID must be less than 30 characters
5. The Site ID must not end with a space
6. The Site ID must not be null for field samples
7. The Matrix must be a Legal Value and not null
8. The Sample ID must begin with the COC number
9. The Sample ID must be less than 30 characters
10. The Sample ID must not be null for field samples, MS, MSD
11. The Sample ID must be null for Lab QC samples except MS and MSD
12. The Sample Date must not be null
13. The Sample Date must be in the format mmddyy
14. The Sample Time must be numeric and 4 digits in length
15. If Sample Time is missing then must be 4 zeroes
16. The Rec_date must be in the format mmdyy
17. The SDG must less than 30 characters
18. The SDG cannot be null
19. The Lab_file_ID cannot be null
20. The Smp_depth must be a string less than 20 characters
21. The Smp_depth cannot be null
22. Samp_QC must be a Legal Value
23. Notes must be less than 100 characters

A2. Analysis Verification Rules
1. # of analyte fields matches analyte line mask
2. The CAS number must not be null
3. The CAS name must not be null
4. The Conc must be in the data type format number (15,10)
5. The Conc must not be null
6. The Err must be in the data type format number (15,10)
7. The Det_lim must not be null unless PH, TLD, or moisture element or for QC analytes
8. The Det_lim must be of the data type format number (15,10)
9. Units must not be null
10. Units must be valid for matrix and analysis type
11. An_date must be in the form mm/dd/yy
12. Method must not be null
13. Lab_Batch_ID must not be null
14. The Ext_date must be in the form mm/dd/yy
15. Anal_QC must be a Legal Value
16. Conc_UCL must be > 0 for SU, MS, MSD, LCS, format number (10,5)
17. Conc_LCL must be >= 0 for SU, MS, MSD, LCS, format number (10,5)
18. Ret_time must be integer > 0 for IS
19. Ret_UCL must be integer > 0 for IS
20. Ret_LCL must be integer > 0 for IS
21. Spike must be >0 for at least one analyte for MS, MSD, format number (10,5)
22. True_val must be > 0 for LCS, format number (10,5)
23. True_val must be between Conc_LCL and Conc_UCL
24. RPD_UCL must be >0 for at least one analyte for MSD, format number (10,5)
25. Lab_Qual must be a Legal Value
26. Lab_QCnotes truncated to 500 characters
27. Rev_Qual must be blank
28. The Rev_conc must be blank
29. The Rev_QCnotes must be blank

B. CAS Table

A list of all constituents in the CAS table can be found at http://www.bnl.gov/erd/erd/tech.html.

C. EDD File Format

The text files shown below illustrate correctly formatted EDDs. For complete details refer to the Specifications for EIMS Analytical Data Format, located at http://www.bnl.gov/erd/erd/tech.html.

Example 1. Field Sample EDD

```
COC_num|Site-ID|Samp_type|Samp-ID|Samp_date|Samp_time|Rec_date|SDG|Lab_file-ID|Samp_depth|Samp_QC|Notes
6238|TRIP BLANK|W|6238-001|01/26/00|0945|01/28/00|21132|2113200101||
Cas_num|Name|Concen|Error|Det_limit|Units|Anal_date|Method|Lab_batch-
ID|Ext_date|Dil|Anal_QC|Conc_UCL|Conc_LCL|Ret_time|Ret_UCL|Ret_LCL|Spike|True_val|RPD_UCL|Lab_qual|Lab_QCnotes|Rev_qual|Rev_conc|Rev_QCnotes
100-41-4|Ethylbenzene|.5||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1||U||||
100-42-5|Styrene|.5||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1||U||||
10061-01-5|cis-1,3-Dichloropropylene|.5||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1||U||||
10061-02-6|trans-1,3-Dichloropropylene|.5||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1||U||||
103-65-1|n-Propylbenzene|.5||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1||U||||
104-51-8|n-Butylbenzene|.5||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1||U||||
106-43-4|4-Chlorotoluene|.5||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1||U||||
106-46-7|1,4-Dichlorobenzene|.5||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1||U||||
106-93-4|1,2-Dibromoethane|.5||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1||U||||
107-06-2|1,2-Dichloroethane|.5||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1||U||||
108-67-8|1,3,5-Trimethylbenzene|.5||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1||U||||
108-86-1|Bromobenzene|.5||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1||U||||
108-88-3|Toluene|.5||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1||U||||
108-90-7|Chlorobenzene|.5||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1||U||||
120-82-1|1,2,4-Trichlorobenzene|.5||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1||U||||
124-48-1|Dibromochloromethane|.5||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1||U||||
127-18-4|Tetrachloroethylene|.5||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1||U||||
135-98-8|sec-Butylbenzene|.5||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1||U||||
142-28-9|1,3-Dichloropropane|.5||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1||U||||
156-59-2|cis-1,2-Dichloroethylene|.5||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1||U||||
156-60-5|trans-1,2-Dichloroethylene|.5||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1||U||||
1868-53-7|Dibromofluoromethane|4.1|||UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|SU|117|66|||||1|||||||
2037-26-5|Toluene-d8|4.8|||UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|SU|122|73|||||1|||||||
3114-55-4|Chlorobenzene-d5|5|||UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|S|||||||1|E||||
```

Example 2. Lab QC EDD

```
COC_num|Site-ID|Sample_type|Samp-ID|Samp_date|Samp_time|Rec_date|SDG|Lab_file-ID|Samp_depth|Samp_QC|Notes
|W||02/07/00||02/07/00|21132|100002237|0||LCS|
Cas_num|Name|Concen|Error|Det_limit|Units|Anal_date|Method|Lab_batch-
ID|Ext_date|Dil|Anal_QC|Conc_UCL|Conc_LCL|Ret_time|Ret_UCL|Ret_LCL|Spike|True_val|RPD_UCL|Lab_qual|Lab_QCnotes|Rev_qual|Rev_conc|Rev_QCnotes
100-41-4|Ethylbenzene|4.7||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1|1.0||||
100-42-5|Styrene|4.9||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1|1.0||||
10061-01-5|cis-1,3-Dichloropropylene|4.3||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1|1.0||||
10061-02-6|trans-1,3-Dichloropropylene|4.2||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1|1.0||||
103-65-1|n-Propylbenzene|5.3||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1|1.0||||
104-51-8|n-Butylbenzene|5.3||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1|1.0||||
106-43-4|4-Chlorotoluene|5||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1|1.0||||
106-46-7|1,4-Dichlorobenzene|4.7||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1|1.0||||
106-93-4|1,2-Dibromoethane|4.1||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1|1.0||||
107-06-2|1,2-Dichloroethane|4||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1|1.0||||
108-67-8|1,3,5-Trimethylbenzene|4.9||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1|1.0||||
108-86-1|Bromobenzene|4.4||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1|1.0||||
108-88-3|Toluene|4.7||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1|1.0||||
108-90-7|Chlorobenzene|4.8||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1|1.0||||
120-82-1|1,2,4-Trichlorobenzene|4.3||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1|1.0||||
124-48-1|Dibromochloromethane|3.9||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1|1.0||||
127-18-4|Tetrachloroethylene|4.4||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1|1.0||||
135-98-8|sec-Butylbenzene|5.2||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1|1.0||||
142-28-9|1,3-Dichloropropane|4.3||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1|1.0||||
156-59-2|cis-1,2-Dichloroethylene|4.4||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1|1.0||||
156-60-5|trans-1,2-Dichloroethylene|4.3||.5|UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|||||||||1|1.0||||
1868-53-7|Dibromofluoromethane|4.1|||UG/L|02/07/00|EPA 524.2|10568|02/07/00|1|SU|117|66|||||1|||||||
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